

## CLAIMS

### WHAT IS CLAIMED IS:

1. A method of pipelining a disease-specific diagnostic algorithm on an n-bit data word stored in a memory, said method comprising:
  - a) defining clinical tests used for the diagnosis of a disease;
  - b) defining each of the clinical tests on the n-bit data word and providing the normal value of each clinical test;
  - c) sequentially reading out each of said clinical test normal values of the n-bit data word from said memory;
  - d) upon receiving a first of said clinical test value, computing the next clinical test;
  - e) receiving a next one of said clinical tests of said data word;
  - f) computing a next portion of the diagnostic algorithm using said next of said clinical tests and a most recently calculated value of a computation of a prior portion of the diagnostic algorithm to produce a second clinical test value; and
  - g) if necessary, repeating steps (e) and (f) until all of said clinical tests of the data word have been processed, wherein the final value computed for the last clinical test is a value for the complete diagnosis of the specific disease.
2. The method of claim 1, further comprising performing a different clinical test after the value for the last clinical test is negative, to rule out a different diagnosis.
3. The method of claim 1, further comprising using a program code to implement the diagnostic algorithm.
4. The method of claim 3, further comprising using a modified computer architecture code to implement the diagnostic algorithm.
5. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the acid fast bacteria algorithm.
6. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the anemia algorithm.
7. The method of claim 1, wherein the disease-specific diagnostic algorithm

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8. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the HBsAg algorithm.

9. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the breast cancer algorithm.

10. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the prostate cancer algorithm.

11. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the Epstein-Barr virus algorithm.

12. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the Hepatitis algorithm.

13. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the thyroid function algorithm.

14. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the autoimmune algorithm.

15. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the serum protein algorithm.

16. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the urinalysis.

17. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the human immunodeficiency virus.

18. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the hepatitis B algorithm.

19. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the syphilis algorithm.

20. The method of claim 1, wherein the disease-specific diagnostic algorithm comprises the thrombophilia algorithm.

21. An apparatus for pipelining a diagnostic algorithm on an n-bit data word, said apparatus comprising:

- a) a memory storing the n-bit data words;

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b) means for sequentially reading out each of a m clinical tests of the n-bit data from said memory, wherein m is an integer greater than one;

c) m clinical tests, each of which is programmed to compute a different clinical test of the diagnostic algorithm using a different one of the m clinical tests to produce a corresponding result, wherein each of said clinical test after a first test receives the result from a prior stage and wherein the result from a prior stage and wherein the result from a last one of said m clinical tests is a complete diagnosis of a disease obtained by the no-bit data word.

22. The apparatus of claim 21, wherein the m clinical tests have an equal number of bits.

23. The apparatus of claim 21, wherein the memory comprises an array of chips, each of which includes a plurality of m-bit storage cells.

24. The apparatus of claim 23, wherein m equals at least one.

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